The present invention has been described herein with reference to a particular embodiment for a particular application. Those having ordinary skill in the art and access to the present teachings will recognize additional modifications applications and embodiments within the scope thereof. It is therefore intended by the appended claims to cover any and all such applications, modifications and embodiments within the scope of the present invention.

What is claimed is:

**1**. A system for determining a position of a mobile wireless transceiver comprising:

a base station;

means for calculating a Doppler shift of signals transmitted from first, second and third satellites, respectively, relative to the base station;

means for calculating a first set of pseudo ranges of the first and second satellites, respectively, relative to said base station;

means for sending satellite identification information, Doppler shift information, and said pseudo range information between said base station and said wireless transceiver;

means disposed at said wireless transceiver for receiving said satellite identification information, Doppler shift information, and said pseudo range information from said base station;

means disposed at said mobile wireless transceiver for utilizing said information received from said base station to identify a second set of pseudo ranges between said transceiver and said first and second satellites, respectively, at a time T;

means disposed at said mobile wireless transceiver for sending to said base station said second set of pseudo ranges between said transceiver and said first and second satellites, respectively, along with time information for the time T; and

means disposed at the base station for calculating the position of said wireless transceiver in response to said second set of pseudo ranges and said time information for the time T.

**2**. The invention of claim, **1** wherein said means disposed at the base station for calculating the position of said wireless transceiver in response to said second set of pseudo ranges and said time information for the time T includes means for determining the distance of said wireless transceiver from said base station.

**3**. The invention of claim **2** wherein said means disposed at the base station for calculating the position of said wireless transceiver includes means for utilizing the distance of said wireless transceiver from said base station in the calculation of the position of said wireless transceiver.

**4**. The invention of claim **1** including means disposed at the base station for identifying two optimal positioning satellites.

**5**. The invention of claim **1** including means for switching said mobile wireless transceiver from a first mode for effecting voice/data communication to a second mode for locating the position thereof.

**6**. The invention of claim **1** wherein said means disposed at the base station for calculating the position of said wireless transceiver includes:

means for utilizing said second set of pseudo ranges to calculate a third set of pseudo ranges between said first and second satellites and said base station, respectively and

means for utilizing known positions of the two satellites at time T, the position of the base station, the third set of pseudo ranges and a delay in the time of arrival of a signal transmitted from the mobile wireless transceiver to the base station to ascertain the position of said wireless transceiver.

**7**. The invention of claim **6** wherein said means for calculating the position of the wireless transceiver includes means for finding an intersection of a first sphere of first radii around a first of the two satellites, a second sphere of second radii around a second of the two satellites, and a third sphere of third radii around said base station.

**8**. The invention of claim **1** wherein said means for calculating the position of the wireless transceiver includes means for finding an intersection of a first sphere of first radii around a first of the two satellites, a second sphere of second radii around a second of the two satellites, and a third sphere of third radii around said base station.

**9**. A system for determining a position of a mobile wireless transceiver comprising:

a base station;

means disposed at the base station for identifying first and second Global Positioning System satellites;

means for calculating a Doppler shift of signals transmitted from said first and second satellites, respectively, relative to the base station;

means for calculating a first set of pseudo ranges of the first and second satellites, respectively, relative to said base station;

means for sending satellite identification information, Doppler shift information, and said pseudo-range information from said base station to said wireless transceiver;

means disposed at said wireless transceiver for receiving said satellite identification information, Doppler shift information, and said pseudo range information from said base station;

means disposed at said mobile wireless transceiver for utilizing said information received from said base station to identify a second set of pseudo ranges between said transceiver and said first and second satellites, respectively, at a time T;

means disposed at said mobile wireless transceiver for sending to said base station said second set of pseudo ranges between said transceiver and said first and second satellites, respectively, along with time information for the time T and

means disposed at the base station for calculating the position of said wireless transceiver in response to said second set of pseudo ranges and said time information for the time T said means for calculating including:

means for determining the distance of said wireless transceiver from said base station and

means for utilizing the distance of said wireless transceiver from said base station in the calculation of the position of said wireless transceiver.

**10**. The invention of claim **9** including means for switching said mobile wireless transceiver from a first mode for effecting voice/data communication to a second mode for locating the position thereof.

**11**. The invention of claim **9** wherein said means disposed at the base station for calculating the position of said wireless transceiver includes:

means for utilizing said second set of pseudo ranges to calculate a third set of pseudo ranges between said first and second satellites and said base station, respectively and